

AMENDMENTS TO THE CLAIMS

1 (Currently amended). An induction heating device for inductively heating an object to be heated which is formed of conductive material, comprising:

- a holder which comprises a ferrite core and is positioned outside the object;
- an exciting coil for inductively heating the object, wherein the exciting coil is composed of a plurality of turns of conductor forming a layer which is supported by the holder and is positioned along the object; and
- a demagnetizing coil which is positioned along the layer of the exciting coil and in which a back electromotive force is induced in accordance with a magnetic field produced by the exciting coil, so as to cancel the magnetic field,

wherein the demagnetizing coil is provided between the exciting coil and the ferrite core of the holder.

2-3 (Canceled).

4 (Currently amended). An induction heating device ~~as claimed in claim 1~~ for inductively heating an object to be heated which is formed of conductive material, comprising:

- a holder which comprises a ferrite core and is positioned outside the object;
- an exciting coil for inductively heating the object, wherein the exciting coil is composed of a plurality of turns of conductor forming a layer which is supported by the holder and is positioned along the object; and
- a demagnetizing coil which is positioned along the layer of the exciting coil and in which a back electromotive force is induced in accordance with a magnetic field produced by the exciting coil, so as to cancel the magnetic field,

wherein the demagnetizing coil forms a layer and is positioned so as to form the same layer as the exciting coil forms.

5 (Original). An induction heating device as claimed in claim 1, further comprising an insulating layer between the demagnetizing coil and the exciting coil.

6 (Original). An induction heating device as claimed in claim 1, further comprising a switching circuit for opening and closing the demagnetizing coil.

7 (Currently amended). An induction heating fixing device of induction heating type for fixing a toner image to a sheet while conveying the sheet, comprising:

a fixing member formed of conductive material;

a pressurizing member for temporarily pinching the sheet being conveyed, between the pressurizing member and the fixing member, wherein the pressurizing member is provided in pressure contact with the fixing member;

a holder which comprises a ferrite core and is positioned outside the fixing member;

an exciting coil for inductively heating the fixing member, wherein the exciting coil is composed of a plurality of turns of conductor forming a layer which is supported by the holder and is positioned along the fixing member; and

a demagnetizing coil which is positioned along the layer of the exciting coil and in which a back electromotive force is induced in accordance with a magnetic field produced by the exciting coil, so as to cancel the magnetic field,

wherein the demagnetizing coil is provided between the exciting coil and the ferrite core of the holder.

8-9 (Canceled)

10 (Currently amended). An induction heating fixing device ~~as claimed in claim 7 of~~ induction heating type for fixing a toner image to a sheet while conveying the sheet, comprising:

a fixing member formed of conductive material;

a pressurizing member for temporarily pinching the sheet being conveyed, between the pressurizing member and the fixing member, wherein the pressurizing member is provided in pressure contact with the fixing member;

a holder which comprises a ferrite core and is positioned outside the fixing member;

an exciting coil for inductively heating the fixing member, wherein the exciting coil is composed of a plurality of turns of conductor forming a layer which is supported by the holder and is positioned along the fixing member; and

a demagnetizing coil which is positioned along the layer of the exciting coil and in which a back electromotive force is induced in accordance with a magnetic field produced by the exciting coil, so as to cancel the magnetic field,

wherein the demagnetizing coil forms a layer and is positioned so as to form the same layer as the exciting coil forms.

11 (Original). An induction heating fixing device as claimed in claim 7, further comprising an insulating layer between the demagnetizing coil and the exciting coil.

12 (Original). An induction heating fixing device as claimed in claim 7, wherein the demagnetizing coil is positioned within a narrower region than the exciting coil is, with respect to width direction of the sheet that is conveyed through pinching part between the fixing member and the pressurizing member.

13 (Original). An induction heating fixing device as claimed in claim 7, further comprising a switching circuit for opening and closing the demagnetizing coil.

14 (Original). An induction heating fixing device as claimed in claim 13, wherein the switching circuit closes the demagnetizing coil only on occasion of fixing to a sheet of a smaller size than a predetermined size.

15 (Currently amended). An image forming apparatus comprising an image forming unit for forming a toner image and an induction heating fixing device of induction heating type for fixing to a sheet the toner image formed by the image forming unit while conveying the sheet, further comprising:

a fixing member formed of conductive material;

a pressurizing member for temporarily pinching the sheet being conveyed between the pressurizing member and the fixing member, wherein the pressurizing member is provided in pressure contact with the fixing member;

a holder which comprises a ferrite core and is positioned outside the fixing member;

an exciting coil for inductively heating the fixing member, wherein the exciting coil is composed of a plurality of turns of conductor forming a layer which is supported by the holder and is positioned along the fixing member; and

a demagnetizing coil which is positioned along the layer of the exciting coil and in which a back electromotive force is induced in accordance with a magnetic field produced by the exciting coil, so as to cancel the magnetic field,

wherein the demagnetizing coil is provided between the exciting coil and the ferrite core of the holder.